

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SM

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/470,386 12/22/99 GENSKE

R 24180-667000

IM22/0720

EXAMINER

JOY ANN G SERALISKAS
MCDERMOTT WILL & EMERY
227 W MONROE STREET
CHICAGO IL 60606-5096

JACKSON, M

ART UNIT	PAPER NUMBER
----------	--------------

1773

DATE MAILED:

07/20/01

S

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)
	09/470,386	GENSKE ET AL.
	Examiner Monique R Jackson	Art Unit 1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 March 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 33 and 34 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-32 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 3/29/01 has been entered. New claims 26-34 have been added. Claims 1-34 are pending in the application.
2. Newly submitted claims 33-34 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
 - I. Original claims 1-25 and new claims 26-32 are drawn to a multilayer film, classified in class 428, subclass 516.
 - II. Claims 33-34 are drawn to a method of making a multilayer film by cast extrusion, classified in class 264, subclass 176.1.Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by another and materially different process such as dry lamination or coating.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 33 and 34 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

6. Claim 1 is objected to because of the following informalities: line 7 “capable of forming a heat,” should be “capable of forming a heat seal,” given that the marked up copy does not indicate the deletion of the word “seal” from the claim and hence it is assumed that the term “seal” was omitted in error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claims as well as the newly submitted claims contain limitations that were not described in the original disclosure at the time of filing. Specifically, the claims as currently presented recite the following new matter:

- a. Claim 1 recites “**said second layer has a density range from about 0.89 g/cc to 0.93 g/cc** and wherein said second layer is capable of **forming a heat**, wherein **said multilayer film structure has orientation in the machine direction**” in lines 6-8. First, the original disclosure provided for a second layer comprising a **poly(ethylene) that had a density range from about 0.89 g/cc to 0.93 g/cc**. Hence, the original disclosure did

not provide for a second layer within the instantly claimed density range but only that the layer comprises a poly(ethylene) within the claimed density range and further, considering the claims and the specification recite that the second layer also comprises colorants and fillers that would inherently affect the density of the second layer, it would not be clear to one skilled in the art that the originally described second layer would result in a second layer having the same density as the poly(ethylene) which it comprises. Secondly, the original disclosure provides no discussion whatsoever with regards to orientation of the multilayer film in the machine direction or any other direction or even the lack of orientation to produce an unoriented film.

- b. The same position as stated above is taken with regards to these limitations as presented in amended claims 23 (density and orientation), 24-25 (orientation), and 31 (unoriented.)
- c. Claims 26-28 present new subject matter that was not described in the original disclosure. Claims 26-28 as recited provide for a multilayer film comprising a third layer comprising a poly(ethylene) having a density range from about **0.93 to about 0.97 g/cc** wherein the multilayer film is positioned such that the second layer which comprises the polyethylene having a density range of **0.89 to 0.93 g/cc** is in between the first and third layers. However, it is noted that the original disclosure only provided for structures wherein the layer comprising the polyethylene having a density range of 0.89 to 0.93 g/cc was an outer or seal layer, not an interior layer as recited in claims 26-28. Or stated in another way, the original disclosure did not provide for a structure wherein a layer, in this case the “first” and “third” layers as recited by claim 26, comprising a poly(ethylene)

having a density range from about 0.93 to 0.97 g/cc is utilized in both outer layers of the multilayer film. Hence, the original disclosure does not support the multilayer film as recited in claims 26-28 nor would it be readily apparent to one skilled in the art that that the inventor(s), at the time the application was filed, had possession of the claimed invention as recited in claims 26-28.

d. Claim 30 recites new matter in that the original disclosure does not describe the melt index of the second layer or any other layer for that matter and it would not be reasonably conveyed to one skilled in the art that the second layer had a melt index of less than about 5 g/10 min given that the second layer is described by the original disclosed in open language and hence can comprise other materials which would affect the melt index of the layer.

e. Claims 1 and/or 32 contain new matter in terms of the substitution of the term “blended poly(ethylene)” by “a blend of low density polyethylene and a plastomer” in claim 1 and the use of the term “a fourth polyethylene having a density of about 0.911 g/cc” to replace the “plastomer” in claim 32. The original disclosure discusses the term “plastomer” in terms of a type of polyethylene suitable for the invention. Hence, the only plastomer originally disclosed is that of a polyethylene plastomer not plastomers in general. Therefore, amended claim 1 which recites “a second layer comprising a blend of low density polyethylene and a plastomer” broadens the invention to all plastomers and not just polyethylene plastomers as originally disclosed. However, on the other hand, if one reads the description on page 6, lines 26-29, of the original specification, it is not clearly stated that the plastomers are polyethylene plastomers only even though the term

plastomers are used as part of the series of polyethylenes suitable for the invention.

Hence, if the Applicant intended for the third layer to comprise plastomers in general (as recited in amended claim 1) as opposed to polyethylene plastomers, then the addition of the fourth polyethylene material as recited in Claim 32 constitutes new matter given that the original disclosure only provides for a plastomer with the density range and weight percent recited (Claim 14), not a fourth polyethylene.

9. Claims 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 12 and 13 recite the limitation “said second layer poly(ethylene)”, however, there is insufficient antecedent basis for this limitation in the claims given that amended claim 1 from which claims 12 and 13 depend now recites “a blend of low density polyethylene and a plastomer”.

10. Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 31 recites the limitation “wherein the film is unoriented” in line 1, however it is unclear how the film could be unoriented as recited in Claim 31 given that Claim 31 depends from Claim 1 which recites the film has orientation in the machine direction.

Claim Rejections

11. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiPoto.

As recited in the prior office action, DiPoto teaches a multi-layer heat sealable film which is produced by coextrusion and compression rolled orientation and useful as a packaging material (Abstract; Col. 11, lines 28-42.) The film comprises at least one barrier layer of a

moisture and/or gas resistant thermoplastic material and at least one sealant layer of a heat sealable thermoplastic material (Abstract.) The barrier layer comprises a gas and/or moisture barrier material, such as high density polyethylene (HDPE), medium density polyethylene (MDPE), low density polyethylene (LDPE), linear polyethylenes such as butene, hexene, octene copolymers, polypropylene, nylon, ethylene vinyl alcohol (EVOH), polyester, polyacrylonitrile, polyvinylidene chloride (PvDC) and blends thereof (Col. 4, lines 45-52.) The barrier layer is comprised of a material which has a higher melting point than the sealant layer (Col. 4, lines 52-54.) In various embodiments, it is preferred to have high density polyethylene (*which by definition would have a density within the range of 0.93 to 0.97 g/cc*) as a primary component of the barrier layer (Col. 4, lines 54-56.) The second layer is a heat sealant layer which can comprise a material having various heat seal layer properties such as seal initiation temperature, hot tack strength and coefficient of friction (Col. 4, lines 56-59.) Various useful adhesive or heat sealant layers comprise ethylene/acetate copolymers; ethylene/carboxylic acid; butene, hexene, or octene linear copolymers of polyethylene; ionomers and acid or anhydride modified ethylene vinyl acetates; and low density polyethylene (LDPE), ultra low density polyethylene (ULDPE), very low density polyethylene (VLDPE), (*wherein LDPE, ULDPE and VLDPE by definition would have a density within the range of 0.89 to 0.93 g/cc*), linear polyethylenes, and metallocene catalyst based polyethylenes which are copolymerized with 10-20% octene, hexene, butene or mixtures thereof, and **blends** of these adhesive layer materials (Col. 4, line 59 – Col. 5, line 5.) Typically, it is noted that heat sealant layers have lower melting points than barrier layers such as high density polyethylene (Col. 5, lines 7-9.) It is also within the contemplated scope of the invention that various other materials can be included as an intermediate layer in the

film (Col. 4, lines 18-21.) The various intermediate or middle layers can be provided to increase the desired properties of the film such as puncture resistance, tear resistance, opacity level and gas barrier properties (Col. 4, lines 22-24.) These various intermediate materials can include other types of barrier materials such as gas barrier materials, other sealant layers, metallic particles layers, and layers which include trim or excess from the film material (Col. 4, lines 24-28.) The intermediate layers may also include a color component such as titanium dioxide to render any desired level of opacity or color to the film or other organic filler (Col. 4, lines 28-30; Col. 10, lines 46-50.) DiPoto teach various examples comprising 2, 3, and 4 intermediate layers which comprise barrier material plus trim or the excess width trimmed off the edges of the film and incorporated back to save costs (Col. 9, lines 4-50.) DiPoto also teach that multilayer films may be produced by lamination and/or coextrusion technology and/or orientation (Col. 2, lines 3-11.) Therefore, though DiPoto offers several possible structures and layer compositions, it is within the scope of the invention taught by DiPoto to fabricate an oriented multilayer laminated packaging film with four or more layers comprising a heat sealant layer of LDPE which by definition has a density of 0.89 to 0.93 g/cc, two intermediate layers of HDPE which by definition has a density of 0.93 to 0.97 g/cc and may comprise trim or excess from the entire film, and a barrier or support layer comprising polyester, nylon, or polypropylene whereby the barrier layer is coated with a barrier resin which would constitute a third intermediate layer; and it would have been obvious to one having ordinary skill in the art to select from the materials taught by DiPoto optimize the layer combinations to produce a multilayer film for a desired end use. Additionally, it would have been obvious to one skilled in the art to optimize the thickness and composition of the individual film layers based on the materials taught by DiPoto to provide

a multilayer laminated packaging film with the desired film properties, including layer density, melt index, and tear and heat seal properties required for a given end use. Further, it is well known in the art that orientation of a polymer film is a common and conventional process in the art which directly affects the film properties of the resulting oriented film, such as strength and tearability, and hence it would have been obvious to one having ordinary skill in the art to determine the level of orientation, ie. uniaxial, biaxial or unoriented, required for a particular end use.

12. Claims 1, 9-15, 17, 21, 23, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Bader et al.

As recited in the prior office action, Bader et al teach an oriented multilayer film structure comprising a base layer of high density polyethylene (HDPE) which inherently has a density of 0.93 to 0.97 g/cc, and coextruded skin resin, laminated film or coating on at least one side, preferably on both sides, of the HDPE base layer, (Col. 2, lines 42-49.) The HDPE may be a blend of HDPE polymers all of which preferably have densities of 0.96 or greater (Col. 4, lines 34-36.) The upper skin layer may comprise a blend of plastomers including low density polyethylene LDPE, EPB terpolymer, linear low density polyethylene with a density of 0.88 to 0.93 (Col. 4, line 53 - Col. 5, line 6.) The lower skin layer comprises polyethylene and ethylene-propylene-butene terpolymer (Col. 5, lines 43-49.)

13. Claims 1-7, 9-23, 29, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kudo et al.

As recited in the prior office action, Kudo et al teach a resin laminate suitable for packaging liquid matters such as various foods (Abstract.) The laminate comprises a heat-

sealable layer A of ethylene polymer having a density ranging from 0.900 to 0.920 g/cc including linear low density polyethylene (inherently a plastomer) and ethylene/butene copolymer; a resin layer B which has a higher melting point than layer A and comprises a polyolefinic resin including high density polyethylene which inherently has a density within the range of 0.93 to 0.97 g/cc, middle density polyethylene, low density polyethylene or mixtures thereof; and a base film comprising nylon, PET, or polypropylene, oriented or unoriented, which is laminated on the surface of the resin layer B opposite to the heat-sealable layer A and may comprise one or more layers (Col. 3, lines 10-42; Col. 4, lines 9-11; Col. 5, lines 4-20.) The multilayer film may be produced by coextrusion laminating or extrusion laminating (wherein the film produced by an extrusion process would inherently be oriented in the machine direction), by dry laminating, hot laminating, or hot melt laminating (5:21-30.). The heat-sealable layer A and polyolefinic resin layer B may further comprise a variety of additives such as colorants, fillers, antioxidants, and plasticizers (Col. 4, lines 35-44.) Kudo et al further teach examples utilizing HDPE with a density of 0.954 g/cc or LLDPE with a density of 0.930 as layer B and LLDPE with a density of 0.905 as layer A to form a packaging bag to be filled with soy sauce (Table 1; Col. 7, lines 40-48.) Hence, given that LLDPE is a plastomer, the layer A taught by Kudo et al anticipates the claimed invention. Further, though Kudo et al only teach that the base film may be a single layer or multiple layers, it is the Examiner's position that the final product of a laminated film of the invention with two identical olefinic B layers would be the same as a laminated film with one layer B having the combined thickness of the two identical layers. Additionally, given that Kudo et al are silent to subjecting the final film to an orientation process,

the Examiner takes the position that the film taught by Kudo et al which is produced by dry lamination or other non-extrusion lamination methods taught by Kudo et al is an unoriented film.

Claim Rejections - 35 USC § 103

14. Claims 8, 24-28, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo et al. The teachings of Kudo et al are discussed above and include a multilayer packaging film and a method of making the multilayer film by lamination. Kudo et al also teach that the base film may comprise a single layer or multiple layers but does not teach the use of two identical layers to form one layer B which may comprise HDPE (Col. 5, lines 17-21.) However, it is common to one skilled in the art to laminate multiple individual layers to form a multilayer film of the desired thickness and given that a multilayer film of two or more layers of the same material may be considered a single layer, it would have been obvious to one having ordinary skill in the art to provide the necessary number of layers to provide a film with the desired thickness. Further, it is a common method to one skilled in the art to utilize regrind or excess from previous laminates in a layer of the laminate that comprises the same materials as the entire laminate or which will not be adversely affected by the addition of the regrind and will provide the desired characteristics of that layer. Additionally, it would have been obvious to one having ordinary skill in the art to optimize the individual layer compositions within the teachings of Kudo et al and the thicknesses and arrangement of these layers to provide the desired film properties for a particular end use given that these limitations are result affected variables affecting the strength, barrier properties, heat seal properties and other film properties of the film for a particular end use. Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize a single layer or multiple identical layers to obtain a layer B of the

desired thickness and to utilize routine experimentation to determine the optimum layer thickness and composition, which affects density and melt index, to provide the desired film properties for a particular end use of the invention taught by Kudo et al.

Response to Arguments

15. Applicant's arguments filed 3/29/01 have been fully considered but they are not persuasive. Applicant argues that "the claims, as amended, define multilayer film structures that have improved seal and tear properties that stem from the unique combination of features of the multilayer film. More specifically, the combination of a high density polyethylene layer coextruded with a layer of a blend of low density poly(ethylene) and a plastomer and further having orientation in the machine direction provides the multilayer film structure with improved sealability and with an improved ability to tear when gripped and pulled by an individual." It is first noted by the Examiner that the Applicant's arguments appear to be directed to the fact that the references fail to show certain features of applicant's invention, however, it is noted that the features upon which applicant relies (i.e., improved heat and seal properties) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, the Applicant's arguments appear to suggest that the **unique** combination of features as instantly claimed produces unexpected results in terms of improved heat and seal properties. However, given there is no showing on the record to support this allegation, the teachings of the prior art which include the materials and features as instantly claimed and recited above, anticipate and/or render obvious the invention as instantly claimed. Hence, the claims are rejected for the reasons recited above.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5436 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

mrf
mrf
July 19, 2001

Paul Thibodeau
Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700